

US EPA RECORDS CENTER REGION 5



466808

Monthly Oversight Report 27
ACS NPL Site
Griffith, Indiana
March 1, 2003 - March 28, 2003



BLACK & VEATCH

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Black & Veatch Special Projects Corp.

USEPA/RAC VII
American Chemical Services RAO (057-ROBF-05J7)

BVSPC Project 46526
BVSPC File C.3
April 14, 2003

Mr. Kevin Adler
U.S. Environmental Protection Agency
77 W. Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

Subject: Monthly Oversight Summary Report
No. 27 for March 2003

Dear Mr. Adler:

Enclosed is the Monthly Oversight Summary Report No. 27 for March 2003 for the American Chemical Services Superfund Site in Griffith, Indiana.

If you have any questions, please call (312-683-7856) or email (campbelllm@bv.com).

Sincerely,

BLACK & VEATCH Special Projects Corp.

Larry M. Campbell, P.E.
Site Manager

Enclosure

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Monthly Oversight Summary Report No. 27
ACS Superfund Site WA57, 46526.238

Reporting Period: Month of March (March 1, 2003 - March 28, 2003)

BVSPC O/S Dates: March 4, 13, 18, 20, 25, and 27, 2003

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	6	Respondent's General Contractor
Indiana Department of Environmental Management	1	
Black & Veatch Special Projects Corp.	2	USEPA Oversight Contractor
Independent Environmental Services	3	ONCA SBPA ISVE System Yard Piping Contractor
Austgen	2	Electrical Contractor
Ryan Construction	2	General Contractor
Simalabs	2	GWTP Sampling Contractor

Construction Activities

Major Activities:

- Independent Environmental Services completed tapping into the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system vapor phase extraction wells and connecting the yard piping.
- Independent Environmental Services wrapped the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system yard piping in geotextile fabric.
- Independent Environmental Services began backfilling activities in the On-Site Containment Area Still Bottoms Pond Area.
- Austgen installed utility poles between the groundwater treatment plant and the future On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system blower shed.
- Ryan Construction installed a sump for the catalytic and thermal oxidizers at the groundwater treatment plant.
- Austgen relocated a transformer in the groundwater treatment plant in order to accommodate the motor control center for the future On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system.
- Simalabs conducted routine sampling of the groundwater treatment plant.

- Montgomery Watson Harza conducted the semi-annual groundwater sampling event.
- Montgomery Watson Harza held weekly construction coordination meetings on March 6, 13, 20 and 27, 2003.

Activities Performed:

Independent Environmental Services (IES) completed tapping into the On-Site Containment Area (ONCA) Still-Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system vapor phase wells. IES plugged the wells with an inflatable plug and purged the wells with nitrogen prior to tapping. IES performed air monitoring with a photoionization detector (PID) and an oxygen and lower explosive limit meter. After installing the saddles on the wells, IES proceeded to connect the HDPE yard piping to the saddles with 75-ft-lbs of torque on the bolts. IES also cut the excess riser off the ONCA SBPA ISVE system vapor phase wells located within the road so that the wells would be flushmount upon completion of the final cap. Montgomery Watson Harza (MWH) initially reported that IES will pressure test the saddle connections by slightly pressurizing the lines and checking for leaks with soapy water. However, MWH reported that it would not require pressure testing of the saddles because MWH did not expect to have any problems with the saddles leaking based on the method of construction.

IES completed wrapping the ONCA SBPA in-situ soil vapor extraction ISVE system yard piping in geotextile fabric. MWH decided to wrap all of the yard piping in geotextile fabric in lieu of placing sand bedding and the geotextile fabric around the piping. IES also completed backfilling the ONCA SBPA ISVE system yard piping trench located within the road area with concrete. IES prepared several of the flushmount wells for the installation of the protective casings. MWH reported that IES is expected to complete the yard piping activities within the next 2 weeks. MWH also reported that it selected Midwest Environmental, Inc. (MEI) to place the gravel over the ONCA SBPA once yard piping installation activities are completed.

On March 3 and 4, 2003, Austgen installed five 35-foot-tall wooden utility poles from the groundwater treatment plant (GWTP) to the future ONCA SBPA ISVE system blower shed. Austgen installed the poles to a depth of 5-feet below ground surface. Three poles were located within the ONCA SBPA interim cover area. MWH performed air monitoring throughout the installation activities and coordinated the installation activities with IES. MWH also reported that the PID was not operating normally on March 3, 2003, and that it observed some odors. MWH reported that it required all personnel to be located upwind of the drilling activities. MWH reported that Austgen will install the power lines at a later date.

MWH reported that Ryan Construction installed the bypass ducting between the catalytic oxidizer and the OFCA ISVE system thermal oxidizer on March 14, 2003. MWH also reported that it evaluated the excess capacity of the OFCA ISVE system thermal oxidizer and concluded that it would be able to divert approximately one-half to one-third of the air stream from the catalytic oxidizer to the thermal oxidizer. MWH, however, did not begin diverting the air stream during the reporting period.

Ryan Construction completed the new sump at the GWTP. The sump was constructed to contain the condensation from the catalytic and thermal oxidizers. Ryan Construction installed double-walled piping from the exterior concrete pad to the sump located within the GWTP near the catalytic oxidizer scrubber.

MWH reported that US Floors will install a sealcoat on both the sump and the ONCA SBPA ISVE system blower shed slab during the week of March 31, 2003.

MWH reported that it continued to operate the Off-Site Containment Area (OFCA) ISVE system and conduct performance monitoring of the system in accordance with its *Performance Standard Verification Plan*. MWH reported that the OFCA ISVE system was down from March 25, 2003, until March 28, 2003. MWH shut the system down simultaneously with the GWTP and reported that it performed some additional maintenance on the scrubber unit while the system was down. MWH also reported that it is scheduling a shut down of the OFCA ISVE system within the next 2 weeks in order for Vidimos to perform repairs on the scrubber portion of the system. MWH reported that it will evaluate the potential clogging of the secondary quench bars. MWH reported that Vidimos is also fabricating a platform for the ONCA SBPA ISVE system scrubber blower and exhaust stack. MWH reported that it has not decided whether it will inspect the scrubber packing while the system is shut down. MWH reported that it will begin operating a new set of wells for the OFCA ISVE system once the repairs to the scrubber are complete.

MWH reported that the GWTP operated at 25 gpm, extracting from all available sources except for some of the eastern ONCA SBPA ISVE system dual phase extraction (DPE) wells. Simalabs collected samples from the GWTP for routine analyses. MWH reported that the GWTP was shut down briefly in order for Ryan Construction to repair the welding on one of the tanks in the GWTP. MWH also reported that the GWTP was shut down for one and a half days in order for Austgen to relocate a transformer from the GWTP control room to the loft area in order to accommodate the future ONCA SBPA ISVE system motor control center. IES and MWH replaced the packing in the oil-water separator on March 12, 2003.

MWH reported that several of the ONCA SBPA ISVE system DPE wells were not operating properly. MWH reported that the pump manufacturer stated that the pumps are typically operated in a continuously supplied air environment. MWH currently turns the ONCA SBPA ISVE system DPE well pumps on and off by connecting and disconnecting the air supply to the pump. The pump manufacturer suspects that based on MWH's method of operation, that a positive pressure is not being maintained in the pump and is causing problems with the operation of the pumps. MWH reported that it worked with the manufacturer of the DPE well pumps and determined that it would need to install a valve on the air supply line in order to keep the pumps pressurized. MWH reported that it would order the appropriate parts for future installation.

MWH conducted the semi-annual groundwater sampling event from March 24, 2003, through March 28, 2003. Black & Veatch Special Projects Corp. observed the sampling on March 25 and 27, 2003. MWH collected water level measurements on March 24, 2003. MWH collected water level measurements on March 24, 2003. MWH collected samples from 32 wells for analysis for a full scan of Target Compound List/Target Analyte List parameters. Groundwater samples were collected for the following analyses: volatile organic compounds, metals, cyanide, semivolatile organic compounds, pesticides, and polychlorinated biphenyls.

Attached are BVSPC weekly reports No. 105 through 108, correspondence, log book notes, and photographs of the daily activities. BVSPC's crew conducted oversight of the major field activities on

March 4, 13, 18, 20, 25 and 27, 2003. BVSPC's crew attended three weekly construction coordination meetings at the site on March 13, 20, and 27, 2003. BVSPC participated in the weekly construction coordination meeting on March 6, 2003, via conference call because of the construction inactivity at the site.

Topics of Concern:

- MWH reported that there are two areas of the ONCA SBPA interim cover where the thickness of the clay is less than the design thickness. Based on Hard Hat Services, Inc.'s clay sample for the ONCA SBPA interim cover, the permeability of the clay does not meet the design requirements.

Concern Resolution:

- MWH reported that it received preliminary results of the sampling performed on the clay from the ONCA SBPA interim cover. MWH reported that one of the samples met the design requirements; however, the second sample did not. MWH proposed to use a geosynthetic clay liner in order to meet the permeability requirements of the Final Remedial Design.

Upcoming Activities:

- Area Survey to resurvey P-36 and MW-10C.
- IES to complete placing the geotextile over the ONCA SBPA interim cover.
- IES to begin backfilling around the ONCA SBPA ISVE system wells.
- Midwest Environmental, Inc. to place the gravel over the ONCA SBPA interim cover.
- US Floors to place a sealcoat on the ONCA SBPA ISVE system blower shed slab and on the GWTP sump.
- MWH to inspect the OFCA ISVE system scrubber packing.
- Vidimos to fabricate a replacement OFCA ISVE system scrubber sump.

Signature: Leigh Peters

Date: April 2, 2003

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Weekly Oversight Summary Report No. 105
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 3, 2003.

BVSPC O/S Dates: March 4, 2003 (Ms. Peters).

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	2	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Independent Environmental Services	3	ONCA SBPA ISVE System Yard Piping Contractor
Austgen	2	Electrical Contractor

Construction Activities

Major Activities:

- Independent Environmental Services completed tapping into the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system vapor phase extraction wells and connecting the yard piping.
- Austgen installed utility poles between the groundwater treatment plant and the future On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system blower shed.
- Montgomery Watson Harza held the weekly construction coordination meeting on March 6, 2003.

Activities Performed:

Independent Environmental Services (IES) completed tapping into the On-Site Containment Area (ONCA) Still-Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system vapor phase wells. IES plugged the wells with an inflatable plug and purged the wells with nitrogen prior to tapping. IES performed air monitoring with a photoionization detector (PID) and an oxygen and lower explosive limit meter. After installing the saddles on the wells, IES proceeded to connect the HDPE yard piping to the saddles with 75-ft-lbs of torque on the bolts. IES also cut the excess riser off the ONCA SBPA ISVE system vapor phase wells located within the road so that the wells would be flushmount upon completion of the final cap. Montgomery Watson Harza (MWH) reported that IES will pressure test the saddle connections by slightly pressurizing the lines and checking for leaks with soapy water. MWH also reported that IES will begin backfilling around the yard piping with sand bedding as the weather permits.

On March 3 and 4, 2003, Austgen installed five 35-foot-tall wooden utility poles from the groundwater treatment plant (GWTP) to the future ONCA SBPA ISVE system blower shed. Austgen installed the poles to a depth of 5-feet below ground surface. Three poles were located within the ONCA SBPA interim cover area. MWH performed air monitoring throughout the installation activities and coordinated the installation

activities with IES. MWH reported that the PID was not operating normally on March 3, 2003, and that it observed some odors. MWH reported that it required all personnel to be located upwind of the drilling activities. MWH reported that Austgen will install the power lines at a later date.

MWH reported that the GWTP operated at 25 gpm, extracting water from all available sources except for some of the ONCA SBPA ISVE system dual phase extraction (DPE) wells. MWH reported that Ryan Construction is expected to install piping in order for the air stream from the aeration tank to be treated by the Off-Site Containment Area (OFCA) ISVE system thermal oxidizer and scrubber. MWH also reported that Ryan Construction is scheduled to install a sump around the catalytic and thermal oxidizer units at the GWTP. MWH continued to operate the OFCA ISVE system without incident. MWH reported that it expects to begin operating a new set of wells in the upcoming weeks.

MWH reported that the semi-annual groundwater sampling event is scheduled for the week of March 24, 2003. MWH reported that all 32 wells in the groundwater sampling program will be sampled for a full scan of Target Compound List/Target Analyte List parameters.

MWH held the weekly construction coordination meeting on March 6, 2003. Black & Veatch Special Projects Corp. participated in the weekly construction coordination meeting via conference call because of the construction inactivity at the site.

Topics of Concern:

- MWH reported that there are two areas of the ONCA SBPA interim cover where the thickness of the clay is less than the design thickness. Based on Hard Hat Services, Inc.'s clay sample for the ONCA SBPA interim cover, the permeability of the clay does not meet the design requirements.

Concern Resolution:

- MWH reported that it collected two samples from the ONCA SBPA interim clay cover for geotechnical analysis on February 28, 2003.

Upcoming Activities:

- Area Survey to resurvey P-36 and MW-10C.
- IES to pressure test the ONCA SBPA ISVE system saddles.
- IES to complete placing the geotextile over the ONCA SBPA interim cover.
- IES to begin backfilling around the ONCA SBPA ISVE system wells.
- MWH to inspect the OFCA ISVE system scrubber packing.
- Vidimos to fabricate a replacement OFCA ISVE system scrubber sump.
- MWH to evaluate the permeability of the ONCA SBPA interim clay cover.
- Ryan Construction to install a sump around the catalytic and thermal oxidizer units.
- MWH to perform the semi-annual groundwater sampling event.

Signature: Leigh Peters

Date: February 28, 2003

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR MARCH 6, 2003 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 6, 2003

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES: Peter Vagt – MWH (via phone)
Travis Klingforth – MWH
Chris Daly – MWH
Carlos Claros – MWH
Robert Adams – MWH
Todd Lewis – MWH (via phone)
Jon Pohl – MWH (via phone)
Kevin Adler – U.S. EPA (via phone)
Leigh Peters – BVSPC (via phone)

TOPICS:

Health and Safety Summary

There were no health and safety incidents at the ACS Site since the last weekly meeting on February 27. Lee Orosz and Tom Tinics of MWH are participating in their annual eight-hour HAZWOPER training in Joliet, Illinois today.

Groundwater Treatment Plant (GWTP) Status

The GWTP has been operating normally since the last meeting on February 27. The current flow rate is 25 gallons per minute (gpm). All available sources for extraction of groundwater are active with the exception of some of the Still Bottoms Pond Area (SBPA) dual phase wells.

MWH is planning to install additional piping to be able to by-pass the catalytic oxidizer. This by-pass piping would allow off-gas from the GWTP to be treated in the thermal oxidizer (instead of the catalytic oxidizer) until the initial peak of the SBPA contamination has been treated.

Ryan Construction is scheduled to construct a sump near the catalytic and thermal oxidizers during March or April to collect condensation from the units.

The heat exchanger installed during November 2002 continues to enhance treatment and removal efficiency by warming the water in the activated sludge plant and encouraging "bug" growth and activity. The current influent concentrations of benzene, toluene,

ethylbenzene, and xylenes (collectively known as BTEX) and chlorinated solvents in the GWTP from the SBPA dual-phase extraction wells exceed the design parameters of the system. However, high removal efficiencies in the activated sludge plant and aeration tank have effectively treated these higher influent concentrations.

In-Situ Vapor Extraction (ISVE) System – Off-Site Area

MWH continues to operate the same subset of 16 ISVE wells that were started up on February 17 and continues to monitor system performance in accordance with the PSVP. Additional off-gas samples have been collected from the influent to the thermal oxidizer unit for evaluation purposes. MWH expects to switch to a new set of ISVE wells for operation in late March.

On-Site Area ISVE System

MWH continues to connect three-inch diameter vapor extraction piping to the ISVE wells using saddles. This task is scheduled for completion during the week of March 10, however this task is weather dependent. A pressurized soapy water test will be performed on the flange connections at each SVE well during the week of March 10 to confirm a proper seal.

Austgen Electric installed new power poles between the GWTP and the blower shed pad beginning on March 3 and 4. The electrical lines have not yet been installed. These will deliver power to the future blower shed and ISVE system equipment.

MWH has ordered the motor control centers needed for the new ISVE system. MWH continues to receive and review design submittals and equipment cut sheets from Global regarding the thermal oxidizer and from Fliteway regarding the blower shed.

On-Site Area Interim Cover

MWH collected two clay samples from the interim On-Site area cover on February 28 to verify the low permeability of the material used. The flexible wall permeability test will be performed on the samples.

Groundwater Monitoring

The March 2003 Groundwater Monitoring Event is scheduled for March 24 to 28. All 32 wells in the groundwater sampling network will be sampled for the full-suite of analytes, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), inorganics, and pesticides/PCBs.

Design Refinements

The blower shed building to be constructed by Fliteway will be approximately four to five inches wider than originally planned to allow additional room for equipment inside the building.

Looking Ahead

Week of March 10, 2003	<ul style="list-style-type: none">• GWTP/ISVE operation• On-Site Area BWES Upgrade operation• Complete conveyance piping installation, etc.
Week of March 17, 2003	<ul style="list-style-type: none">• GWTP/ISVE operation• On-Site Area BWES Upgrade operation
Health and Safety Items to Monitor	<p>Items include:</p> <ul style="list-style-type: none">• Inerting and tapping wells• Slips, trips, falls (especially in ice/snow and around SVE wells)• Temperature/hypothermia• GWTP vapor piping bypass for off-gas treatment: need to confirm no lingering vapors are in pipes• GWTP sump/trenching work

Next Weekly Construction Meetings

- Thursday, March 13, 2003

TMK/PJV/RAA/TAL/pjv

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Weekly Oversight Summary Report No. 106
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 10, 2003.

BVSPC O/S Dates: March 13, 2003 (Ms. Peters).

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	3	Respondent's General Contractor
Indiana Department of Environmental Management	1	
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Independent Environmental Services	2	ONCA SBPA ISVE System Yard Piping Installation Contractor
Ryan Construction	4	General Contractor
Simalabs	2	GWTP Sampling Contractor

Construction Activities

Major Activities:

- Independent Environmental Services and Montgomery Watson Harza replaced the packing material in the oil-water separator in the groundwater treatment plant.
- Ryan Construction began installing the sump for the catalytic and thermal oxidizers at the groundwater treatment plant.
- Simalabs conducted routine sampling of the groundwater treatment plant.
- Montgomery Watson Harza held the weekly construction coordination meeting on March 13, 2003.

Activities Performed:

Independent Environmental Services (IES) and Montgomery Watson Harza (MWH) replaced the packing in the oil-water separator in the groundwater treatment plant (GWTP). MWH reported that IES will resume activities on the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system yard piping when the weather permits. IES will begin by pressure testing the saddle connections by slightly pressurizing the lines and checking for leaks with soapy water. MWH also reported that IES will begin backfilling around the yard piping with sand bedding as the weather permits.

MWH reported that it continued to operate the Off-Site Containment Area (OFCA) ISVE system without incident. MWH reported that it expects to operate a new set of wells over the next few weeks. MWH also reported that it would likely shut down the system at that time in order to replace the OFCA ISVE system scrubber sump. MWH continued to perform monitoring of the system in accordance with its *Performance Standard Verification Plan*.

MWH reported that the GWTP operated at 25 gpm, extracting from all available sources except for some of the eastern ONCA SBPA ISVE system dual phase extraction (DPE) wells. Simalabs collected samples from the GWTP for routine analyses. Ryan Construction began cutting the concrete floor of the GWTP and the exterior concrete pad in preparation for the installation of a sump. The sump will encompass the catalytic oxidizer, the OFCA thermal oxidizer, and the future ONCA thermal oxidizer. MWH reported that Ryan Construction will complete the sump next week. MWH also reported that Ryan Construction installed the bypass ducting between the catalytic oxidizer and the OFCA ISVE system thermal oxidizer on March 14, 2003. MWH reported that it is assessing how much of the air stream it can redirect to the thermal oxidizer without impacting the operation of the OFCA ISVE system. MWH reported that it would continue operating a limited number of wells from the ONCA SBPA extraction system until it has determined the amount of air flow that can be redirected.

MWH reported that the semi-annual groundwater sampling event is scheduled for the week of March 24, 2003. MWH reported that all 32 wells in the groundwater sampling program will be sampled for a full scan of Target Compound List/Target Analyte List parameters.

MWH reported that it had the following design refinements:

- MWH reported that the ONCA SBPA ISVE system single pipe runs will be wrapped in a geotextile, rather than surrounding the single pipe runs with sand bedding and a geotextile.
- MWH confirmed that the torque placed on the bolts for the ONCA SBPA ISVE system saddles is 75-ft-lbs.

MWH held the weekly construction coordination meeting on March 13, 2003.

Topics of Concern:

- MWH reported that there are two areas of the ONCA SBPA interim cover where the thickness of the clay is less than the design thickness. Based on Hard Hat Services, Inc.'s clay sample for the ONCA SBPA interim cover, the permeability of the clay does not meet the design requirements.

Concern Resolution:

- MWH reported that it received preliminary results of the sampling performed on the clay from the ONCA SBPA interim cover. MWH reported that one of the samples met the design requirements; however, the second sample did not. MWH reported that it would discuss the testing method with the laboratory and continue to evaluate the results.

Upcoming Activities:

- Area Survey to resurvey P-36 and MW-10C.
- IES to pressure test the ONCA SBPA ISVE system saddles.
- IES to complete placing the geotextile over the ONCA SBPA interim cover.
- IES to begin backfilling around the ONCA SBPA ISVE system wells.
- MWH to inspect the OFCA ISVE system scrubber packing.
- Vidimos to fabricate a replacement OFCA ISVE system scrubber sump.
- MWH to evaluate the permeability of the ONCA SBPA interim clay cover.
- Ryan Construction to complete the sump around the catalytic and thermal oxidizer units.
- MWH to perform the semi-annual groundwater sampling event.

Signature: Leigh Peters

Date: March 17, 2003

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR MARCH 13, 2003 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 13, 2003

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES: Travis Klingforth – MWH (via phone)
Chris Daly – MWH (via phone)
Tom Tinics – MWH
Lee Orosz – MWH
Robert Adams – MWH
Jon Pohl – MWH (via phone)
Kevin Adler – U.S. EPA (via phone)
Prabhakar Kasarabada – IDEM
Leigh Peters – BVSPC
Mark Travers – Environ (via phone)

TOPICS:

Health and Safety Summary

There were no health and safety incidents at the ACS Site since the last weekly meeting on March 6th.

Groundwater Treatment Plant (GWTP) Status

The GWTP has been operating normally since the last meeting on March 6th. The current flow rate is 20 gallons per minute (gpm). All available sources for extraction of groundwater are active with the exception of some of the Still Bottoms Pond Area (SBPA) dual phase wells. Six of the 21 dual phase wells are in operation currently.

MWH is planning to install additional piping that would allow off-gas from the GWTP to be treated in the thermal oxidizer or catalytic oxidizer until the initial peak of the SBPA contamination has been treated.

The packing in the GWTP CPI oil-water separator (ME-1) was replaced on March 12th as part of routine maintenance. The packing in this unit is replaced every one to one and a half years.

Ryan Construction is constructing two sumps near the catalytic and thermal oxidizers to collect potential condensation and wash water from the units. Construction began March 13th and is scheduled for completion by March 20th.

In-Situ Vapor Extraction (ISVE) System – Off-Site Area

MWH continues to operate the same subset of 16 ISVE wells in the Off-Site Area that were started up on February 17. The wells and system are being monitored in accordance with the PSVP. MWH expects to change to a new set of ISVE wells for operation in late March. MWH continues to evaluate the need for additional system capacity.

On-Site Area ISVE System

MWH completed connecting three-inch diameter vapor extraction piping to the ISVE wells using saddles on March 7th. The remaining six ISVE wells located in the roadway were cut off to be finished as flush mount wells. A pressurized soapy water test will be performed on the flange connections at each SVE well to confirm a proper seal. Pipe leaks would be indicated by this test method by the presence of soap bubbles at the leak.

Austgen Electric began to move existing electrical equipment inside the GWTP on March 7th and 10th to make room for equipment related to the operation of the new ISVE system.

MWH continues to receive and review design submittals and equipment cut sheets from Global regarding the thermal oxidizer and from Fliteway regarding the blower shed. A complete submittal package will be given to the Agencies when it is available.

Groundwater Monitoring

The March 2003 Groundwater Monitoring Event is scheduled for March 24 to 28. All 32 wells in the groundwater sampling network will be sampled for the full-suite of analytes, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), inorganics, and pesticides/PCBs.

Design Refinements

The following design refinements were discussed in the weekly construction meeting:

1) **On-Site Area ISVE System Conveyance Piping:** MWH has revised the bedding to be placed over some of the ISVE conveyance pipes. Sand, geotextile, and gravel will be installed as originally planned along pipe runs where multiple pipes are located. The primary purpose of the sand is to fill the interstitial spaces between multiple pipes. In locations with only a single pipe run, the pipe will be protected with geotextile fabric and covered with gravel. Placing sand around these pipes is not necessary due to the pipe strength. However, geotextile will provide additional protection.

2) **On-Site Area ISVE System Conveyance Piping:** In accordance with manufacturer specifications and field observations, MWH has determined that the flange connection bolts at each ISVE well should be tightened to a torque of 75 foot-pounds.

Looking Ahead

Week of March 17, 2003	<ul style="list-style-type: none">• GWTP/ISVE operation• On-Site Area BWES Upgrade operation• Completion of sump for thermal and catalytic oxidizer units
Week of March 24, 2003	<ul style="list-style-type: none">• GWTP/ISVE operation• On-Site Area BWES Upgrade operation• Groundwater Sampling Event
Health and Safety Items to Monitor	<p>Items include:</p> <ul style="list-style-type: none">• Inerting and tapping wells• Slips, trips, falls (especially in ice/snow and around SVE wells)• Temperature/hypothermia• GWTP vapor piping bypass for off-gas treatment: need to confirm no lingering vapors are in pipes• GWTP sump/trenching work

Next Weekly Construction Meetings

- Thursday, March 20, 2003

TMK/RAA/PIV/TAL

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Weekly Oversight Summary Report No. 107
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 17, 2003.

BVSPC O/S Dates: March 18 and 20, 2003 (Ms. Peters).

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	2	Respondent's General Contractor
Black & Veatch Special Projects Corp.	1	USEPA Oversight Contractor
Independent Environmental Services	3	ONCA SBPA ISVE System Yard Piping Installation Contractor
Ryan Construction	2	General Contractor
Simalabs	2	GWTP Sampling Contractor

Construction Activities

Major Activities:

- Independent Environmental Services began wrapping the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system yard piping in geotextile fabric.
- Independent Environmental Services backfilled some of the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system yard piping trenches located in the roadway with concrete.
- Ryan Construction installed the sump at the groundwater treatment plant for the catalytic and thermal oxidizers.
- Simalabs conducted routine sampling of the groundwater treatment plant.
- Montgomery Watson Harza held the weekly construction coordination meeting on March 20, 2003.

Activities Performed:

Independent Environmental Services (IES) began wrapping the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system yard piping in geotextile fabric. Montgomery Watson Harza (MWH) decided to wrap all of the yard piping in geotextile fabric in lieu of placing sand bedding and the geotextile fabric around the piping. IES also poured concrete over some of the ONCA SBPA ISVE system yard piping located within the future road area. IES reported that it will complete the concrete backfill around the yard piping located within the road area next week. MWH reported that IES expected to complete the yard piping activities within the next 2 to 3 weeks. MWH also reported that IES will not be pressure testing the saddle connections to the yard piping. MWH reported

that based on the construction method and requirements, it did not expect to have any problems with the saddles leaking. MWH also reported that it was not able to determine an appropriate testing method to test the saddles easily. MWH also reported that Midwest Environmental, Inc. (MEI) has been selected to place the gravel over the ONCA SBPA once yard piping installation activities are completed.

MWH reported that it continued to operate the Off-Site Containment Area (OFCA) ISVE system and conduct performance monitoring of the system in accordance with its *Performance Standard Verification Plan*. MWH also reported that it is scheduling a shut down of the OFCA ISVE system within the next two weeks in order for Vidimos to repair the scrubber portion of the system. MWH reported that Vidimos is also fabricating a platform for the ONCA SBPA ISVE system scrubber blower and exhaust stack. MWH reported that it has not decided whether it will inspect the scrubber packing while the system is shut down. MWH reported that it will begin operating a new set of wells for the OFCA ISVE system once the repairs to the scrubber are complete.

Ryan Construction completed the new sump at the groundwater treatment plant (GWTP). The sump was constructed to contain the condensation from the catalytic and thermal oxidizers. Ryan Construction installed double-walled piping from the exterior concrete pad to the sump located within the GWTP near the catalytic oxidizer scrubber. MWH reported that Ryan Construction will return next week to complete the finishing work on the concrete.

MWH reported that the GWTP operated at 25 gpm, extracting from all available sources except for some of the eastern ONCA SBPA ISVE system dual phase extraction (DPE) wells. Simalabs collected samples from the GWTP for routine analyses. MWH reported that the GWTP was shut down briefly in order for Ryan Construction to repair the welding on one of the tanks in the GWTP. MWH also reported that it evaluated the excess capacity of the OFCA ISVE system thermal oxidizer and concluded that it would be able to divert approximately one-half to one-third of the air stream from the catalytic oxidizer to the thermal oxidizer; however, MWH did not begin diverting the air stream.

MWH reported that several of the ONCA SBPA ISVE system DPE wells were not operating properly. MWH reported that the pump manufacturer stated that the pumps are typically operated in a continuously supplied air environment. MWH currently turns the ONCA SBPA ISVE system DPE well pumps on and off by connecting and disconnecting the air supply to the pump. The pump manufacturer suspects that based on MWH's method of operation, a positive pressure is not being maintained in the pump and is causing the operational problems. MWH reported that it will continue to work with the manufacturer to determine how to resolve the problem.

MWH reported that the semi-annual groundwater sampling event is scheduled for the week of March 24, 2003. MWH reported that all 32 wells in the groundwater sampling program will be sampled for a full scan of Target Compound List/Target Analyte List parameters.

MWH held the weekly construction coordination meeting on March 20, 2003.

Topics of Concern:

- MWH reported that there are two areas of the ONCA SBPA interim cover where the thickness of the clay is less than the design thickness. Based on Hard Hat Services, Inc.'s clay sample for the ONCA SBPA interim cover, the permeability of the clay does not meet the design requirements.

Concern Resolution:

- MWH reported that it received preliminary results of the sampling performed on the clay from the ONCA SBPA interim cover. MWH reported that one of the samples met the design requirements; however, the second sample did not. MWH reported that it would discuss the results of the sampling during the weekly construction coordination meeting scheduled for March 27, 2003.

Upcoming Activities:

- Area Survey to resurvey P-36 and MW-10C.
- IES to complete placing the geotextile over the ONCA SBPA interim cover.
- IES to begin backfilling around the ONCA SBPA ISVE system wells.
- MEI to place gravel over the ONCA SBPA interim cover.
- Ryan Construction to finish the concrete sump installed for the catalytic and thermal oxidizers.
- MWH to inspect the OFCA ISVE system scrubber packing.
- Vidimos to fabricate a replacement OFCA ISVE system scrubber sump.
- MWH to evaluate the permeability of the ONCA SBPA interim clay cover.
- MWH to perform the semi-annual groundwater sampling event.

Signature: Leigh Peters

Date: March 24, 2003

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR MARCH 20, 2003 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 20, 2003

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES: Travis Klingforth – MWH (via phone)
Chris Daly – MWH (via phone)
Tom Tinics – MWH
Todd Lewis – MWH (via phone)
Chad Smith – MWH (via phone)
Peter Vagt – MWH (via phone)
Lee Orosz – MWH
Mark Leuck – MWH
Robert Adams – MWH (via phone)
Jon Pohl – MWH (via phone)
Leigh Peters – BVSPC

TOPICS:

Health and Safety Summary

There were no health and safety incidents at the ACS Site since the last weekly meeting on March 13th. Workers on the Site have been advised that thunderstorms are predicted for today.

Groundwater Treatment Plant (GWTP) Status

The GWTP has been operating normally since the last meeting on March 13th. The current flow rate is 25 gallons per minute (gpm). All available sources for extraction of groundwater are active with the exception of some of the Still Bottoms Pond Area (SBPA) dual phase wells. Three of the SBPA dual phase wells are not pumping properly. MWH is investigating the cause for this with the pump manufacturer.

During the week of March 17, MWH completed installation of additional piping that allows off-gas from the GWTP to be treated in the thermal oxidizer or catalytic oxidizer until the initial peak of the SBPA contamination has been treated. MWH is currently evaluating how much additional air flow can be diverted to the thermal oxidizer for treatment.

Ryan Construction has constructed two sumps near the catalytic and thermal oxidizers to collect potential condensation and wash water from the units. Construction began on

March 13th and was completed during the week of March 17th. Ryan Construction also performed maintenance on a tank leak in the GWTP on March 19th.

In-Situ Vapor Extraction (ISVE) System – Off-Site Area

MWH continues to operate the same subset of 16 ISVE wells in the Off-Site Area that were started up on February 17. The wells and system are being monitored in accordance with the PSVP. MWH expects to change to a new set of ISVE wells for operation in April. MWH continues to evaluate the need for additional system capacity.

During the interim period between current ISVE system operation and switching to a new set of wells, Vidimus Company is expected to perform additional maintenance on the system.

On-Site Area ISVE System

MWH is currently wrapping the previously installed conveyance piping with geotextile fabric for protection. This task is expected to be completed March 20th. MWH expects to place concrete on March 21st and 24th over the conveyance piping installed across the roadbed. The schedule will be flexible to respond to weather conditions.

US Floors will be applying a sealer coat to the concrete blower shed foundation during April.

MWH has reviewed all pre-delivery design submittals and equipment cut sheets from Global regarding the thermal oxidizer. Some additional changes will be made and the unit is expected to ship April 14 to the Site. MWH is designing a raised platform to support the blower and exhaust system inside the GWTP.

Fliteway has begun to fabricate the On-Site Area blower shed for delivery in April.

Austgen Electric plans to begin electrical and instrumentation work on March 25 to prepare for the installation of the new ISVE system.

Groundwater Monitoring

The March 2003 Groundwater Monitoring Event is scheduled for March 24 to 28. All 32 wells in the groundwater sampling network will be sampled for the full-suite of analytes, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), inorganics, and pesticides/PCBs.

Design Refinements

No design refinements were discussed in the weekly construction meeting.

Looking Ahead

Week of March 24, 2003	<ul style="list-style-type: none">• GWTP/ISVE operation• On-Site Area BWES Upgrade operation• Groundwater Sampling Event
Week of March 31, 2003	<ul style="list-style-type: none">• GWTP/ISVE operation• On-Site Area BWES Upgrade operation
Health and Safety Items to Monitor	Items include: <ul style="list-style-type: none">• Inerting and tapping wells• Slips, trips, falls (especially in ice/snow and around SVE wells)• Temperature/hypothermia• Cutting geotextile fabric• Groundwater monitoring

Next Weekly Construction Meetings

- Thursday, March 27, 2003
- The April 10, 2003 weekly meeting will be postponed or rescheduled due to a meeting of the ACS Technical Committee, which is scheduled for that date.

TMK/PJV

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Weekly Oversight Summary Report No. 108
ACS Superfund Site WA57, 46526.238

Reporting Period: Week of March 24, 2003.

BVSPC O/S Dates: March 25 and 27, 2003 (Mr. Campbell and Ms. Peters).

Personnel Summary Affiliation	No. of Personnel	Responsibility
Montgomery Watson Harza	6	Respondent's General Contractor
Indiana Department of Environmental Management	1	
Black & Veatch Special Projects Corp.	2	USEPA Oversight Contractor
Independent Environmental Services	3	ONCA SBPA ISVE System Yard Piping Installation Contractor
Austgen	2	Electrical Contractor
Ryan Construction	1	General Contractor

Construction Activities

Major Activities:

- Independent Environmental Services wrapped the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system yard piping in geotextile fabric
- Independent Environmental Services completed backfilling the On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system yard piping located in the roadway with concrete.
- Austgen relocated a transformer in the groundwater treatment plant in order to accommodate the motor control center for the future On-Site Containment Area Still Bottoms Pond Area in-situ soil vapor extraction system.
- Ryan Construction completed installing the sump at the groundwater treatment plant for the catalytic and thermal oxidizers.
- Montgomery Watson Harza conducted the semi-annual groundwater sampling event.
- Montgomery Watson Harza held the weekly construction coordination meeting on March 27, 2003.

Activities Performed:

Independent Environmental Services (IES) completed wrapping the On-Site Containment Area (ONCA) Still Bottoms Pond Area (SBPA) in-situ soil vapor extraction (ISVE) system yard piping in geotextile

fabric. IES also completed backfilling the ONCA SBPA ISVE system yard piping trench located within the road area with concrete. IES prepared several of the flushmount wells for the installation of the protective casings. IES reported that it will begin backfilling around the wells next week. Montgomery Watson Harza (MWH) reported that IES is expected to complete the yard piping activities within the next 2 weeks.

MWH reported that it continued to operate the Off-Site Containment Area (OFCA) ISVE system and conduct performance monitoring of the system in accordance with its *Performance Standard Verification Plan*. MWH reported that the OFCA ISVE system was down from March 25, 2003, until March 28, 2003. MWH shut the system down simultaneously with the shut down of the groundwater treatment plant (GWTP) and reported that it performed some additional maintenance on the scrubber unit while the system was down. MWH also reported that it is scheduling a shut down of the OFCA ISVE system within the next 2 weeks in order for Vidimos to perform repairs on the scrubber portion of the system. MWH reported that it will evaluate the potential clogging of the secondary spray bars at that time. MWH reported that Vidimos is also fabricating a platform for the ONCA SBPA ISVE system scrubber blower and exhaust stack. MWH reported that it has not decided whether it will inspect the scrubber packing while the system is shut down. MWH reported that it will begin operating a new set of wells for the OFCA ISVE system once the repairs to the scrubber are complete.

Ryan Construction completed additional finishing work on the sump which was installed to contain the condensation from the catalytic and thermal oxidizers. MWH reported that US Floors will install a sealcoat on both the sump and the ONCA SBPA ISVE system blower shed slab next week.

MWH reported that the GWTP operated at 25 gpm, extracting from all available sources except for some of the eastern ONCA SBPA ISVE system dual phase extraction (DPE) wells. MWH reported that the GWTP was shut down for one and a half days in order for Austgen to relocate a transformer from the GWTP control room to the loft area in order to accommodate the ONCA SBPA ISVE motor control center. MWH also reported that it has not diverted the air stream from the catalytic oxidizer to the thermal oxidizer, and continues to be limited by the catalytic oxidizer for bringing more ONCA SBPA ISVE system dual phase extraction (DPE) wells on-line. MWH also reported that it worked with the manufacturer of the DPE well pumps and determined that it would need to install a valve on the air supply line in order to keep the pumps pressurized. MWH reported that it would order the appropriate parts for future installation.

MWH conducted the semi-annual groundwater sampling event from March 24, 2003, through March 28, 2003. Black & Veatch Special Projects Corp. observed the sampling on March 25 and 27, 2003. MWH collected water level measurements on March 24, 2003. MWH collected samples from 32 wells for analysis for a full scan of Target Compound List/Target Analyte List parameters. Groundwater samples were collected for the following analyses: volatile organic compounds, metals, cyanide, semivolatile organic compounds, pesticides, and polychlorinated biphenyls.

MWH held the weekly construction coordination meeting on March 27, 2003.

Topics of Concern:

- MWH reported that there are two areas of the ONCA SBPA interim cover where the thickness of the clay is less than the design thickness. Based on Hard Hat Services, Inc.'s clay sample for the ONCA SBPA interim cover, the permeability of the clay does not meet the design requirements.

Concern Resolution:

- MWH reported that it received preliminary results of the sampling performed on the clay from the ONCA SBPA interim cover. MWH reported that one of the samples met the design requirements; however, the second sample did not. MWH proposed to use a geosynthetic clay liner in order to meet the permeability requirements of the Final Remedial Design.

Upcoming Activities:

- Area Survey to resurvey P-36 and MW-10C.
- IES to complete placing the geotextile over the ONCA SBPA interim cover.
- IES to begin backfilling around the ONCA SBPA ISVE system wells.
- Midwest Environmental, Inc. to place the gravel over the ONCA SBPA interim cover.
- US Floors to place a sealcoat on the ONCA SBPA ISVE system blower shed slab and on the GWTP sump.
- MWH to inspect the OFCA ISVE system scrubber packing.
- Vidimos to fabricate a replacement OFCA ISVE system scrubber sump.

Signature: Leigh Peters

Date: March 31, 2003

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**WEEKLY CONSTRUCTION MEETING MINUTES
FOR MARCH 27, 2003 MEETING
AMERICAN CHEMICAL SERVICE, NPL SITE
GRIFFITH, INDIANA**

MEETING DATE: Thursday, March 27, 2003

MEETING TIME: 10:00 AM

MEETING LOCATION: ACS Site – Site Trailer

ATTENDEES: Chris Daly – MWH (via phone)
Tom Tinics – MWH
Todd Lewis – MWH (via phone)
Rudy Stein – MWH
Peter Vagt – MWH (via phone)
Lee Orosz – MWH
Larry Campbell – BVSPC
Kevin Adler – USEPA
Robert Adams – MWH (via phone)
Jon Pohl – MWH (via phone)
Leigh Peters – BVSPC

TOPICS:

Health and Safety Summary

There were no health and safety incidents at the ACS Site since the last weekly meeting on March 20th. Austgen Electric was on site to move the transformers. A safety meeting was held prior to the work during which the potential safety hazards were discussed. These included hazards associated with using a forklift.

Groundwater Monitoring

MWH has been performing the March 2003 Groundwater Monitoring Event this week. As of this meeting, 23 of 32 wells have been sampled. MWH anticipates the remainder of the wells will be completed by March 21. All 32 wells in the groundwater sampling network will be sampled for the full suite of analytes, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), inorganics, and pesticides/PCBs. Purge water generated during the sampling event will be collected and disposed of at the GWTP.

Groundwater Treatment Plant (GWTP) Status

The GWTP was shut down for approximately a day and a half to allow Austgen Electric to move and reinstall the transformers on the mezzanine to make space for new motor control center (MCC) associated with the SBPA in-situ soil vapor extraction (ISVE) and

thermal oxidizer systems. Austgen also installed the MCC. The current extraction rate from the combined PGCS and BWES is 25 gallons per minute (gpm).

In-Situ Vapor Extraction (ISVE) System – Off-Site Area

MWH continued to operate the same subset of 16 ISVE wells in the Off-Site Area until the thermal oxidizer was taken offline to allow Austgen to move the GWTP transformers. As of this meeting, the thermal oxidizer was in the process of coming back to temperature. MWH will check potential plugging problem in the upper spray bars of the scrubber. The system will stay on line until Vidimos Company is brought on site next week to perform additional maintenance on the system.

On-Site Area ISVE System

MWH is currently wrapping the previously installed conveyance piping with geotextile fabric for protection. MWH anticipates this task to be completed March 27th. Concrete was installed over the conveyance piping installed across the roadbed on March 21 and 24. Concrete will be installed around the flush-mount wells on March 28 or 31. Bentonite has been added around the saddles in accordance with the design.

Other activities:

- US Floors will be applying a sealer coat to the concrete blower shed foundation on April 3 or 4.
- MWH anticipates delivery of the thermal oxidizer/scrubber system in late April.
- Fliteway has begun to fabricate the On-Site Area blower shed for delivery in mid-April.
- Austgen Electric is currently constructing the control panels associated with the ISVE system.

Design Refinements

During the installation of the interim engineered cover in the SBPA, clay was obtained from a local source in Griffith, Indiana. Geotechnical testing results of the clay collected in 2001 indicated the permeability of the clay ranged from 2.1×10^{-8} to 3.9×10^{-8} centimeter per second (cm/s), which complies with permeability than specified in the Final Remedial Design Report (1.0×10^{-7} cm/s). Because of the source's proximity to the site and the quality of the clay, this source was also selected for Still Bottoms Pond Area (SBPA) interim engineered cover.

During the construction of the SBPA interim cover, a geotechnical sample collected from the clay source indicated a permeability of 1.7×10^{-7} cm/s. This value does not meet the specified permeability of 1×10^{-7} cm/s. Therefore, two additional samples were collected from the in-place clay to determine if the sample result was an anomaly from the previous test results. The permeability results of these additional samples were 2.4×10^{-8} cm/s and 3.3×10^{-7} cm/s. An average of these two results is 1.77×10^{-7} cm/s for the two samples, which still does not meet the specified permeability for the SBPA interim cover clay. Due to the inconsistency of the test results without any other indication of material variability, the existing data in the SBPA clay is not sufficient to accurately determine if the in-place clay does or does not meet the permeability requirements.

During the weekly meeting, Rob Adams indicated that MWH would evaluate alternatives for determining which areas of the cover may not meet the permeability requirements and methods for meeting the specified permeability in those areas. Following is a summary of MWH's evaluation and recommendation.

Due to the costs, logistics, and uncertainty of additional geotechnical sampling, MWH is proposing to cover the entire extent of the SBPA interim cover with a geosynthetic clay liner (GCL) (CETCO Bentomat or equivalent). The GCL will be placed on top of the gravel layer. The GCL has an effective thickness 0.325 inches with a manufacturer-specified hydraulic conductivity of 5.0×10^{-9} cm/s and is enclosed in a geotextile fabric that will protect it from the site gravel and blacktop. Attached is a summary table of the water breakthrough times for the design cover, the actual cover with GCL, and areas with 0.9 feet of clay and GCL. The results indicate that the installation of the GCL will result in the SBPA interim cover system meeting the long-term permeability requirements of the cap system.

Looking Ahead

Week of March 24, 2003	<ul style="list-style-type: none"> • GWTP/ISVE operation • Power installed to SBPA blower shed location • Concrete coating applied at blower shed and GWTP
Week of March 31, 2003	<ul style="list-style-type: none"> • GWTP/ISVE operation • On-Site Area BWES Upgrade operation
Health and Safety Items to Monitor	<p>Items include:</p> <ul style="list-style-type: none"> • During concrete coating, thermal and catalytic oxidizer will be shut down • Slips, trips, falls • Rebar • Truck traffic • Preparations should be made for crane used to install blower shed

Next Weekly Construction Meetings

- Thursday, April 3, 2003
- The April 10, 2003 weekly meeting will be postponed or rescheduled due to an all-day client meeting at the Site.

CAD/RAA/PTV/TAL

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**Permeability Evaluation
SBPA Cover**

	Design Cover	12" Clay + GCL	10.8" Clay + GCL
GCL Thickness (in)	0	0.325	0.325
GCL Perm (cm/s)	5.00E-09	5.00E-09	5.00E-09
Clay Thickness (in)	12	12	10.8
Clay Perm (cm/s)	1.00E-07	1.75E-07	1.75E-07
Time to Breakthrough (yr)	9.66	10.75	10.20
Meets Design (Y/N)	Y	Y	Y

(4)

2/27/03 Jeff Peters

- 1150 - 1230 Left site for lunch - wait for IES to return - work on field report
- 1250 Return to ONCA + observe IES tap into vapor wells. IES had to cut HDPE line to SVE-71 in order to connect saddle. IES reported that they were trained ~~last~~ Tuesday on thermal butt fusion welding and are certified to weld. Previously, M. Petrich was the only certified welder
- 1320 Austgen on-site - walked through utility pole siting. Poles to be wood, 7' in ground with 30' stickup.
- 1410 IES setting up to tap SVE-74.
- 1440 IES tapped into SVE-74.
- 1510 Roll 37 Photo 5 facing S at ground showing IES inserting gasket in between saddle and yard piping at SVE-74.
- 1515 IES finishing up work for the day. Left site for day.

Jeff Peters
2/27/03

(5)

3/4/03

Jeff Peters

0730 Active on site, ~20°F, cloudy SE wind, snow forecasted in afternoon.

Personnel on site

Lee Orosz	MWH
Larry DeBartolo	IES
Mike Petrich	IES
Tim Kirkland	Austgen
Terrence Jones	IES
Leigh Peters	BVSFC

Activities Planned today

- ① IES continue to connect ONCA ISVE piping
- ② Austgen install utility poles.

0735 Went to ONCA Observed Austgen install the utility pole.

0757 Roll 37 Photo 6 facing E of Austgen drilling for utility pole.

MWH monitoring with PIR poles installed to depth of 5 feet. 5 poles total being installed - 3 within ONCA SRA yesterday. L. Orosz reported that its PIR was not working well yesterday because of the cold but MWH stayed upward. L. Orosz reported that the 2nd pole location west of the blowers area was observed to be the "hottest" but personnel remained upward.

⑥

3/4/03

J. E. Patton

L. Orosz also reported IES completed connecting all vapor wells except for road wells - approx 6. MWH also ordered more ~~gaskets~~ gaskets - short to complete. IES to work today and 3/7/03 b/c of weather - L. Orosz also not on site 3/6. PID readings during today's drilling at 0.0 ppm - locations outside of SBPA.

0805 Austgen completed drilling holes for utility poles - Austgen start drilling hole for guide wire at pole immediately east of SWSP.

0820 Observed IES tap into SVE-72. Well is plugged and inerted with nitrogen. IES also digging around SVE-B1 in order to connect saddle.

0835 IES and MWH decided to reuse gaskets that were used during pressure testing for installation at saddles. This way IES has enough gaskets to finish work, MWH does not need to order more.

0850 IES blowing out line to SVE 81

0900 Roll 37 Photo 7 facing S of Austgen setting utility pole near SWSP.

0905 Roll 37 Photo 8 facing SSW of Austgen backfilling and straightening the utility pole.

J. E. Patton

⑦

3/4/03

J. E. Patton

0915 observed Austgen install last utility pole.

0930 Observed IES continue to tap wells in the road area.

1000 - 1130 Reviewed Reports

1130 - 1200 Left site for lunch

1240 Went to ONCA SBPA - IES just starting to tap SVE-B1. IES reported that it's plug blew up and IES had to replace it.

1250 Roll 37 Photo 9 facing S/E of IES monitoring D₂ at SVE-B1 prior to tapping.

1300 Roll 37 Photo 10 facing W of drill cuttings and material removed from tapping in SP area surrounding SVE-B1. Vapor phase wells for tapping. SVE-B4 material to be placed under a log cover.

1315 Spoke with L. Orosz - he reported the 2 clay samples collected 2/28/03 from the ONCA cover for permeability testing were collected from the east and west side of the cover in the well field.

1320 - 1325 Spoke with L. Campbell on site activities. Continued to observe IES connect yard piping to SVE B1.

1350 Spoke with T. Tinkles. He reported that he did not know when Vidimus expected to replace scrubber sump. T. Tinkles reported no site activities scheduled for Thursday - unsure whether

J. E. Patton

(8)

3/4/03 Leigh Peters

Construction mtg still scheduled.

1400-1440 Review Reports - starting to snow - expected
4-8 inches. IES to not work tomorrow because
of anticipated weather.

1440-1500 Observed IES connect yard piping
at ~~DRE~~ DP SVC-02. Last well for day.

1505- Left site for day.

Leigh Peters
03/04/03

(9)

3/13/03

Leigh Peters

0800 Arrive on site, 32°F, Overcast, light drizzle
Wind from the North
Personnel on-site

Lee Orsz MWH

Dave Hinkel Ryan

D. Gage Ryan

Tom O. ICS

David R. ICS

Simulabs → Mike Chomoweth

Leigh Peters BVSPC

Spoke with L. Orsz - he reported Ryan Construction
saw cutting concrete today for oxidizer unit
sumps. Ryan to return tomorrow to break
concrete. Materials not arrive for cross-over
piping between Cotox and the max - possibly
today. Simulabs conducting routine performance
sampling at GWTP.

0810 Roll 5B Photo 1 facing S of Ryan saw cutting
concrete in GWTP.

0815 Continued to observe Ryan saw cut concrete in
GWTP for future sump. L. Orsz reported that
there will be 2 sumps for the outside thermox, which
will drain via double walled pipe to the
GWTP interior sump near scrubbers. 2 Sumps
needed outside since the added concrete pad (dec)

(10)

3/13/03

J. E. Piter

was pitched. Ryan construction to install sidewalk - 6" high to the south of the Thermox units.

0850

Roll 38 Photo 2 facing W at Ryan completely saw cutting in GWTP floor for sump.

0920

Went to ONCA, Earlier L. Dross reported IES completed connecting wells - hoping to start backfill next week depending on weather. ONCA is very wet - some frozen water present. All wells connected and cut down in road area. Observed that the fence is down on the south end of road and in southeast corner. I will mention to Lee.

0940

Returned to GWTP, Ryan construction beginning to saw cut through exterior pad and set forms for concrete sidewalk.

1000

Weekly construction mtg

Attendees - * on previous plus

Rob Adams MWH Tom Tinnes MWH

Prabukhar Kasarabada IDEN

Via phone:

Kevin Adler EPA Mark Travers Enviro

Chris Daly MWH John Pohl KSH

Travis Klingforth MWH

H+S: no incidents. MWH held H+S mtg

J. E. Piter

(11)

3/13/03

J. E. Piter

with Ryan construction this morning for working around thermox and GWTP.

GWTP: 20 gpm. Pulling from all sources and all Western minus 1 DPE wells. IES replaced packing in oil/water separator this week.

Austgen to move transformers from MCC room to left Ryan to install ducting between catex + thermox. Ryan installing double walled pipe for sump.

ONCA ISVE: MWH to shut down unit after monitoring results OK from system monitoring to install new upgrades to scrubber sump.

ONCA: IES completed HDPE piping last Friday.

IES to pressure test w/soapy water for flanges.

Next week. Thermox / ISVE blowdown scheduled in mid-April. MWH modified some of the yard piping construction.

Design Refinements: ① Multiple pipe runs

will still have sand bedding. Single runs to be wrapped in geotextile. ② Torque on flanges -

Forer range = 50-150 ft-lb, MWH requiring 75 ft-lbs. ③ Sumps installed for condensate from oxidizer units. ④ MWH to forward

submittals re ONCA ISVE as approved by MWH.

Look Ahead: ONCA ISVE / GWTP, IES to pressure test & wrap pipe.

J. E. Piter

(12)

3/13/03

Jh SPN

Next Mtg ~~April 2nd~~ 3/20 @ 10 AM

1040 Spoke with Rob Adams re permeability of clay samples from ONCA. Rob Adams reported one result met the 1×10^{-7} permeability - one result did not. MNH to discuss specific testing with LCB and will evaluate results and what actions to take. MNH to evaluate what additional precipitation may infiltrate and if GWTP has capacity.

1120 Roll 138 Photo 3 facing W of Ryan installing forms for concrete sidewalk/curb/sing around calox + thermox.

1135 Began review of MNH CCRs in trailer. MNH reported that its FID/PID was damaged with water - Carl to finish PSVP sampling measurements without

1220 Ryan Construction completed its work for the day. Continued review of GWES CCR and buried drum removal CCR

1400 Completed report reviews - No work on site

1410 Left site for day.

Jh SPN
3/13/03

(13)

3/18/03

Jh SPN

0735 Arrive on-site, 40°F, dense fog, light NW wind

Personnel Present:

Lee Cross MNH

Pan Patrick IES

Terrence Jones IES

Dave Hinklel Ryan

Doug Gough Ryan

Leigh Peters BVSPC

Activities today:

① IES wrapping ONCA SBPA 15VE yard piping with geotextile

② Ryan working on oxidizer sump.

0740 Roll 138 Photo 4 facing W of piping from oxidizer sump leading to existing sump & GWTP.

0742 Roll 135 Photo 5 facing NE at ground showing double-walled collecting pipe connecting the 2 sumps. Ryan Construction assembling frames for sump containment curb

0800 IES went to ONCA observed Ryan Construction JP wrapping geotextile around single pipe runs. Observed that MNH reestablished the perimeter fencing surrounding the ONCA SBPA. IES wrapped all piping on eastern portion - working on western piping - IES also to wrap the 4 lines.

Leigh Peters

(14)

3/18/03

J. P. P. P.

- 0855 Returned to GNTF, Ryan continuing to frame and installing water stop adhesive.
- 0900 Roll 3B Photo 6 facing E of Ryan constructing exterior sump.
- 0905 Roll 3B Photo 7 facing W of bypass between catex + thermox installed by Ryan last Friday. Ryan Construction reported it will pour both areas of concrete today.
- 0935 Continued to observe Ryan framing sump area. L. Orose reported that he has not fed the GNTF VOC airstream to thermox - waiting for approval from engineering.
- 0955 Spoke with L. Orose - he reported concrete pour at 1100. He also reported that IES will not be pressure testing the saddles. Also, IES to put concrete over runs with several pipes - MHI minimizing any sand backfill.
- 1010 Went to ONCA + observed IES wrapping pipe.
- 1040 Roll 3B Photo 8 facing S of IES wrapping pipe with geotextile.
- 1100 Went to GNTF, observed Ryan tying off the rebar.

J. P. P. P.

(15)

3/18/03

J. P. P. P.

- 1140 Concrete arrived, Ryan placed concrete in sump areas. Observed Ryan place concrete in sump inside building.
- 1225 Roll 3B Photo 9 facing E showing Ryan pouring concrete for outside sump.
- 1255 Left site for day.

J. P. P. P.
3/18/03

(16)

3/20/03

J. S. Peters

0805 Arrive on-site; overcast, 45°F, SE wind.

Thunderstorms forecasted, currently light rain

Personnel Present:

* Lee Drosz MNH

Mike Petrich IES

Lane DeBartolo IES

Terrence Jones IES

* Tam Timics MNH

* Leigh Peters BRSPC

0810 Spoke with T. Timics, he reported IES working on yard piping, no other activities

Observed forms removed from new sump

0825 Went to UNCA IES wrapping pipe in geotextile near road in preparation for concrete pour tomorrow. IES reported that it will be wrapping all piping outside of road area in geotextile

0835 Roll 38 Photo 10 facing S of IES wrapping geotextile on pipe located just south of road. +E HP

0840 IES reported that it will pour concrete for the perimeter road trenches tomorrow and then pour middle trench next week. IES reported that it will use the surrounding rock in the road

J. S. Peters

(17)

3/20/03

J. S. Peters

to serve as the transfer for the concrete IES to pour concrete on middle trench next Tuesday.

0940 Return to GWTP, Simalab's on-site for routine GWTP sampling. Carlos at MNH on-site for OFCA ISVE system PSVP sampling. L. Drosz reported that he is still waiting for engineering's on moving GWTP air stream to the max. L. Drosz reported that piping to be individually wrapped in geotextile for ONCA SRA ISVE yard piping and concrete is bad and maybe near blowers had it unable to wrap individually

1000 Weekly Construction Mtg

Attendees - * on previous plus:
Mark Luke (MNH)

Via phone:

Peter Vagt MNH Todd Lewis MNH

Rob Adams MNH Chris Daly MNH

Chad Smith MNH John Pohl MNH

Travis Klingforth MNH

HHS: no incidents, Ryan and IES working on-site

GWTP: at 25 gpm, shut down briefly

J. S. Peters

(18)

3/20/03

JyH EPR

for welding a tank ~ 2 hours yesterday.
Pumping from all sources - some issues
with DPE pumps. Kirsch plumbing inspected
backflow preventers - ok.

DECA ISVE: schedule downtime possibly
next week for Viditnos to repair, will
switch well group afterwards. Completed bypass
piping from cotex to thermox. MNH evaluating
amount of air stream that can be bypassed.

DNCA: ES wrapping pipe and to pour concrete.
expected 2-3 weeks of work remain. MEI
to place gravel and stone ~ 1+ week of work.
Thermox blower shed under construction.

MNH working w/ manufacturer on new float
switches for knockout tank. DNCA DPE
pumps having problems with air supply being on pte.
MNH working with manufacturer. Pumps need
to be kept pressurized.

GW Sampling: 3/24-3/28, gw levels on 3/24.

32 NELS, TL/TAL

Design Refinements: MNH evaluating clay
results. to discuss next week.

Look Ahead: GW sampling, DNCA piping,
USP floors & estimate seal on DNCA blower
shed concrete slab,

JyH EPR

3/20/03

JyH EPR

(19)

1040 Mtg conclude, next meeting 3/27/03 @ 10.

1045 Spoke with T. Tinics, he reported that MNH
to smoke out the gumbler to identify and
additional holes in isolation for Viditnos to
repair. T. Tinics reported that MNH may or
may not check packing.

1100 MNH conducting sampling of DECA ISVE.

1115 LIT SITE for day - no additional activities

JyH EPR
3/20/03

(20)

3/25/03

Jy2 SP. m

0720 Arrive on-site, Sunny, 45-50 °F

Personnel Present:

Travis Klingforth MWH

Rudy Stein MWH

Lesley Hienholter MWH

Alberto Ugarteche MWH

Lance DeBartolo IES

Lee Orosz MWH

Lough Peters BVSPC

Activities today:

① Semiannual gw sampling

② IES to set precaps on truckmount walls

③ Prostag moving transformers - GWTP shut down

0730 Observed MWH sampling at MW-12.

Stabilized Parameters

pH	Cond	Turb	DO	T	ORP	WL
6.60	61467	100	0.00	10.93	-31	12.24

MW collecting for complete JCL/AL analyses

0740 Roll 38 Photo 11 facing E at MWH collecting VOC sample at MW12

0805 MWH mobilizing to sample at MNSD MW33, MW30 cluster. 1 MWH to ONCA SRPA to

Jy2 SP. m

(21)

3/25/03

Jy2 SP. m

Observe IES' progress on yard piping - trenches in road have been backfilled with concrete and gravel. IES reported that the precaps are to arrive Thursday. IES prepping wells today, to set precaps and cement on Friday weather permitting.

0820 Roll 38 Photo 12 facing E of concrete poured over central yard piping trench.

0825 Roll 38 Photo 13 facing NW at ground showing IES placing bentonite around saddle at SVE-54.

0830 Roll 38 Photo 14 facing E showing concrete over just 8" yard piping rebar and geotextile wrapping over yard piping where gravel backfill to be used.

Observed IES prepping truckmount walls for the installation of the precaps.

0900 Observed MWH sampling field parameters at MW51. MWH monitoring flow rate with 40 mL vial to confirm low flow conditions.

0925 MWH collecting groundwater sample from MW51. Stabilized parameters:

pH	Cond	Turb	DO	T	ORP	WL	gwl
7.17	1.45	210	0.0	12.31	-110	14.82	2.1

WL: water level

Jy2 SP. m

(22)

3/25/03 Jeff E. Plater

- 0930 Roll 38 Photo 15 facing E showing R. Stein collecting gw sample for SVOC analysis from MW51.
- 0955 Roll 38 Photo 16 facing SE of MWH placing pump in MW30.
- 1000 MWH noted a strong acetone odor associated with purge water from MW51. MWH began purging MW30. MWH measuring field parameters every 3 minutes.
- 1040 MWH collecting sample at MW30
- | pH | Cond | turb | DO | T | ORP | WL | Gallons |
|------|------|------|-----|-------|------|-------|---------|
| 7.48 | 1.23 | 170 | 0.0 | 11.93 | -156 | 14.79 | 2.5 |
- 1100 MWH placing pump in MW33. MWH began purging well.
- 1140 MWH to collect sample - stabilized parameters
- | pH | Cond | turb | DO | T | ORP | WL | gal | time |
|------|------|------|-----|-------|------|-------|-----|-------|
| 7.00 | 2.22 | 114 | 0.0 | 11.42 | -110 | 14.93 | 3.2 | 7 sec |
- time: time to fill 40 mL VOA vial - from rate measurement.
- 1142 Roll 38 Photo 17 facing NE of MWH collecting VOA vials for VOCs analysis.
- 1145 MWH completed sampling at MW33 - beginning to decen
- 1150 Observed MWH setting up on MW52 for sampling. Flow at 40 mL in 5 sec.

Jeff E. Plater

(23)

3/25/03 Jeff E. Plater

- roughly 500 mL/min
- 1230 Roll 38 Photo 18 facing NW of MWH collecting field parameters and making SP measuring flow rate at MW52
- 1255 MWH collecting sample from MW52. Stabilized parameters as follows
- | pH | Cond | turb | DO | T | ORP | WL | gal | flow |
|------|------|------|------|------|------|-------|-----|------|
| 7.26 | 0.40 | 4.7 | 0.00 | 11.2 | -110 | 13.15 | 8 | 350 |
- Roll 38 Photo 19 facing N of MWH collecting VOC samples
- 1305-1310 Spoke with L. Campbell on site activities
- 1320-1350 Left site for lunch
- 1355 Observed MWH sampling at MW51 - TP MW17
- 1420 Roll 38 Photo 20 facing SE showing MWH collecting sample for metal analysis at MW17.
- 1425 MWH team packing up and cleaning for the day.
- 1435 Went to DNCA. NES done for day. NES has set forms around some of the Plushment wells for the procaps. Returned to GWTP. Austgen still moving transformers, GWTP down Ryan construction touching up some of its concrete pump. GWTP to be up & running tomorrow
- 1450 Other sampling team finished for day - no other activities
- 1500 Left site for day

Jeff E. Plater

(24)

3/27/03

J. P. Peters

0655 Arrive onsite, 40°F, overcast, light E wind

0700 Spoke with L. Orosz, he reported GWT on-line yesterday at 1200. OFCA I/VE system not on-line, potential problems with recirculation pump, Lee not sure of current status. Activities today:

①. IES to wrap pipe, possibly set manways tomorrow today.

②. GW sampling.

L. Orosz also reported that MWH determined that the ONCA SBPA DPE mills need a check valve on air line in order to prevent water entering air line. MWH to order and install in near future.

0710 Personnel Present:

Lee Orosz MWH

Darryl Henry IES

Lasley Hierholzer MWH

Terrence Jones IES

Matt McSarch MWH

Alberto Ugarteche MWH

Lough Peters DVSPL

Mike Patrick IES

0715 Observed MWH calibrate field equipment for groundwater sampling. Off-road team.

J. P. Peters

(25)

3/27/03

J. P. Peters

to start sampling at MW44, MW45 then proceed to MW29, MW9R and MW14. Truck team making fresh decon solution and rinse water. decon + rinse water made with potable water. Truck team to sample MW10G and MW56 first, then MW44 and MW19.

0735 Went to ONCA SBPA IES has set forms for the manways and concrete at vapor phase wells. IES wrapping air lines. All of the air lines located to the east of the road have been wrapped.

0800 Went to MW44 to observe groundwater sampling.

0810 Ref 38 Photo 21 facing E showing MWH 45 connecting pump to dedicated tubing at MW44 for

0815 MWH having difficulty establishing flow because of leaks in tubing. MWH noted that tubing may need to be replaced.

0830 MWH began purging wells, measuring field parameters, water level and flow rate every 3 minutes. L. Hierholzer reported that check Smith of MWH stated that D.O. does not need to be within 10 percent provided that the PD is consistently less than 0.5.

0850 MWH collecting sample at MW45

J. P. Peters

(26)

3/27/03

Jorge E. P. R.

Stabilized parameters at MW45:

time	pH	Cond	Turb	DO	Temp	DRP	Flow	WL	Vol
0840	7.20	0.179	20.2	0.18	6.4	-113	300	7.23	2.5
0843	7.20	0.179	19.5	0.01	6.5	-114	300	7.22	2.8
0846	7.21	0.179	18.3	0.26	6.6	-115	300	7.22	3.1

0855 Roll 38 Photo 22 facing SE showing MWH

collecting metals sample under low flow

0900 MWH completed sampling, began decommissioning equipment.

0915 MWH setting up at MW44, begin purging

0920 Roll 38 Photo 23 facing W at ground showing flow through cell and purge water at MW44. MWH suspected oxidized iron-containing purge water - orangish brown color

0920 MWH purged initial turbid water, began measuring field parameters once water cleared up. Initial drawdown in well 1 deep 0.63 ft. after purging 2 gallons. MWH lowered flow rate from 500 mL/min to approximately 300 mL/min. water level rebounded 0.2 ft.

0940 Returned to trailer for weekly construction mtg.

1000 Weekly construction mtg
Attendees - * on previous plus

Jorge E. P. R.

(27)

3/27/03

Jorge E. P. R.

Larry Campbell BKSPC Tom Trinks MWH
Rudy Steen MWH

via phone:

Kevin Adler EPA Peter Vagt MWH
Todd Lewis MWH Chris Daly MWH
Rob Adams MWH Jim Pohl MWH

HHS No incidents. Austgen, IES + gm sampling without incidents.

GWT Sampling: 23 wells complete, expect to be finished tomorrow. All water disposed of at GWT

DECA thermos: down with plant, MWH starting up system today, expect to be at temp on Friday. MWH to check upper spray bars - concerned that they may be clogged. No PSVP monitoring - expect system to be down next week for maintenance

ONCA: IES poured concrete over yard piping. IES wrapping geotextile. IES preparing to pour concrete and set pre-caps. MEI to later backfill with stone. Bldg + thermos expected in mid to late April. Target start up May 1.

Design Refinements: MWH to conduct additional clay sampling + assess viable options for meeting design permeability requirements.

Jorge E. P. R.

(28)

3/27/03 Jeff Epstein

Look Ahead: IES, VSFloors to apply coating on ONCA slab + around catox + thermox.

Secure documentation for cranes.

1035 Mtg. conclude. Next meeting - 4/3/03 @ 10 AM.

1100 Observed MWH purging MW14. MWH collecting primary and duplicate samples at MW14.

1115 Walked ONCA with L. Campbell. Brought concern over backfill in smaller holes with missing compaction. Also to find out about location of yard pipe runs - potential for damage and how to locate.

1145 - 1245 Left site for lunch

1250 Went to ONCA observed IES wrap geotextile around pipe near blower shed.

1300 Roll 38 Photo 24 facing SE of IES wrapping pipe located near blower shed.

1400 Observed MWH setup on MW29 to begin purging. MWH reported that it will collect MS/MSD at this well. MWH purged 5 gallons in total.

1435 MWH collecting primary, MS and MSD samples at MW29.

Roll 38 Photo 25 facing NN showing MWH sampling for VOCs and labelling

Jeff Epstein

(29)

3/27/03

Jeff Epstein

sample containers at MW29.

stabilized field parameters:

Time	pH	Cond	Turb	DO	Temp	ORP	Flow	WL	Vol
1422	7.09	0.112	12.7	0.36	12.5	-114	500 ⁴ / _{min}	18.08	3.6
1425	7.10	0.112	12.5	0.26	12.5	-116	500	18.08	4.5
1428	7.10	0.112	13.0	0.21	12.6	-116	500	18.09	5.0

1500 MWH completed sampling at MW29

1510 Roll 38 Photo 26 facing N at MWH decanting pump and cording

1520 Left site for day - in other activities

~~Jeff Epstein~~
3/27/03



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 37 Photo #6

Date: 03-04-03 Time: 07:37

Photographer: Leigh Peters

Description: Photo facing east showing Austgen drilling at the ACS facility for the installation of a utility pole.

Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 37 Photo #7

Date: 03-04-03 Time: 09:00

Photographer: Leigh Peters

Description: Photo facing south showing Austgen placing a utility pole near the GWTP on the ACS facility.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 37 Photo #8

Date: 03-04-03 Time: 09:05

Photographer: Leigh Peters

Description: Photo facing south-southwest showing Austgen placing backfill around the utility pole.



Site: American Chemical Services, Inc.

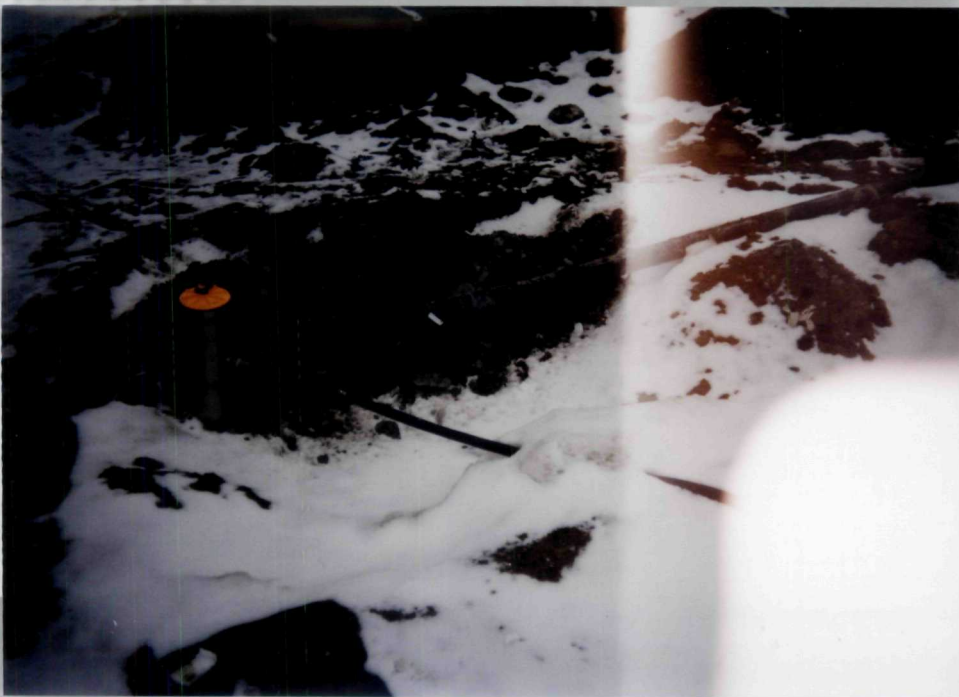
Proj. #: 46526

Roll: 37 Photo #9

Date: 03-04-03 Time: 12:50

Photographer: Leigh Peters

Description: Photo facing southeast showing IES preparing to tap into SVE-81 and monitoring the oxygen and lower explosive limit at SVE-81.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 37 Photo #10

Date: 03-04-03 Time: 13:00

Photographer: Leigh Peters

Description: Photo facing west showing the material removed from the ONCA SBPA ISVE system DPE wells during yard piping installation activities.

Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #1

Date: 03-13-03 Time: 08:10

Photographer: Leigh Peters

Description: Photo facing south showing Ryan Construction saw cutting the concrete floor in the GWTP in order to install a sump.



Site: American Chemical Services, Inc.

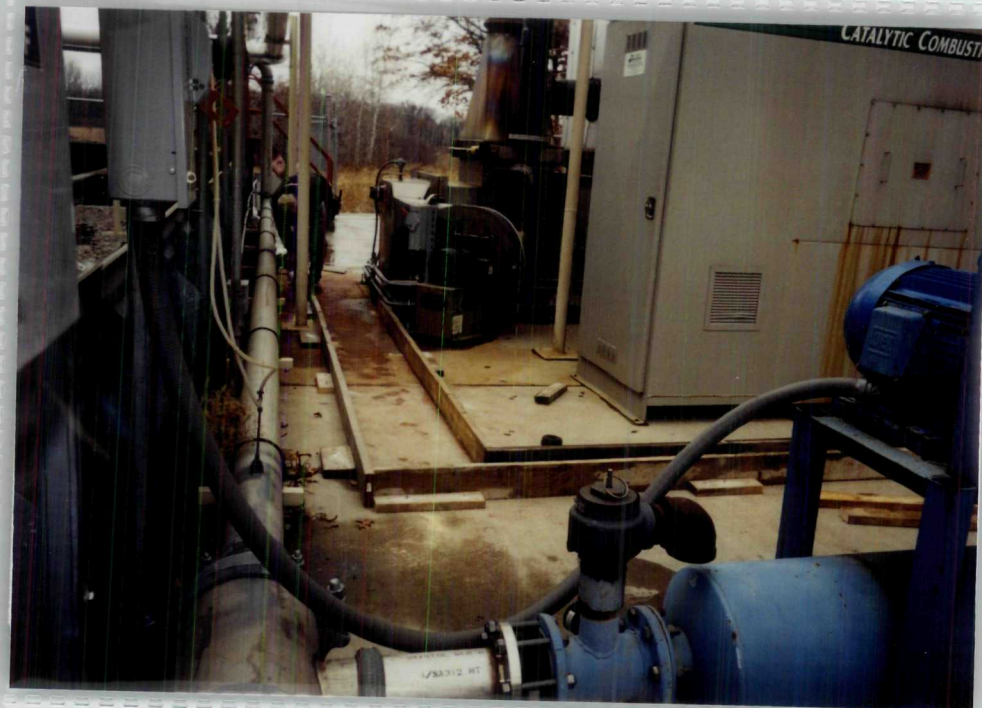
Proj. #: 46526

Roll: 38 Photo #2

Date: 03-13-03 Time: 08:50

Photographer: Leigh Peters

Description: Photo facing west showing Ryan Construction completing the saw cutting of the GWTP floor for the sump installation.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #3

Date: 03-13-03 Time: 11:20

Photographer: Leigh Peters

Description: Photo facing west showing Ryan Construction installing forms for the concrete curbing around the oxidizer units located outside of the GWTP.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #4

Date: 03-18-03 Time: 07:40

Photographer: Leigh Peters

Description: Photo facing west showing the double walled piping installed for the oxidizer sump connecting to the existing GWTP sump.



Site: American Chemical Services, Inc.

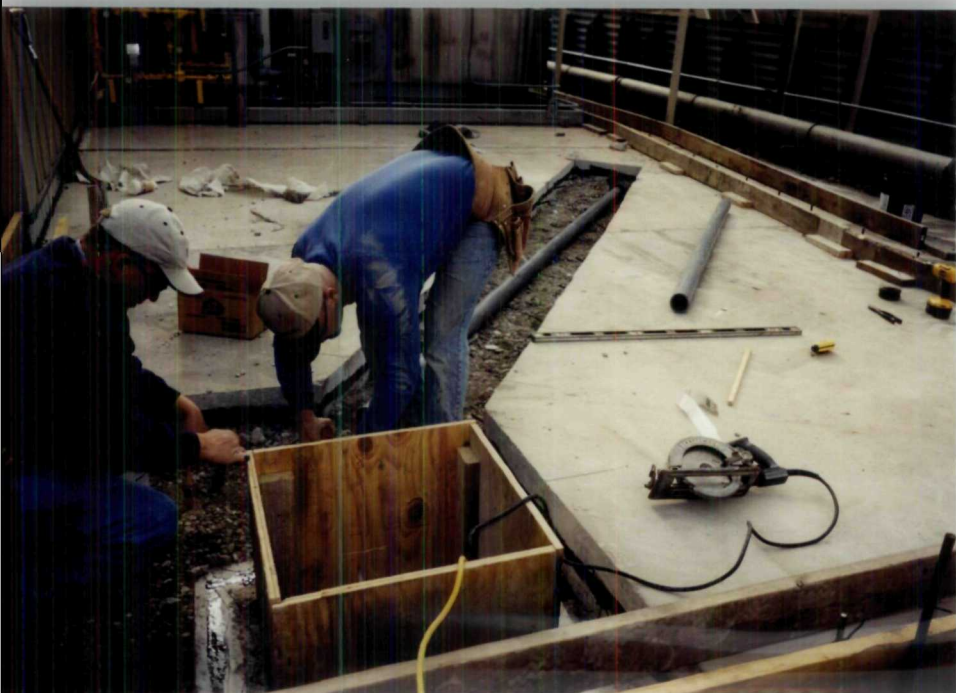
Proj. #: 46526

Roll: 38 Photo #5

Date: 03-18-03 Time: 07:42

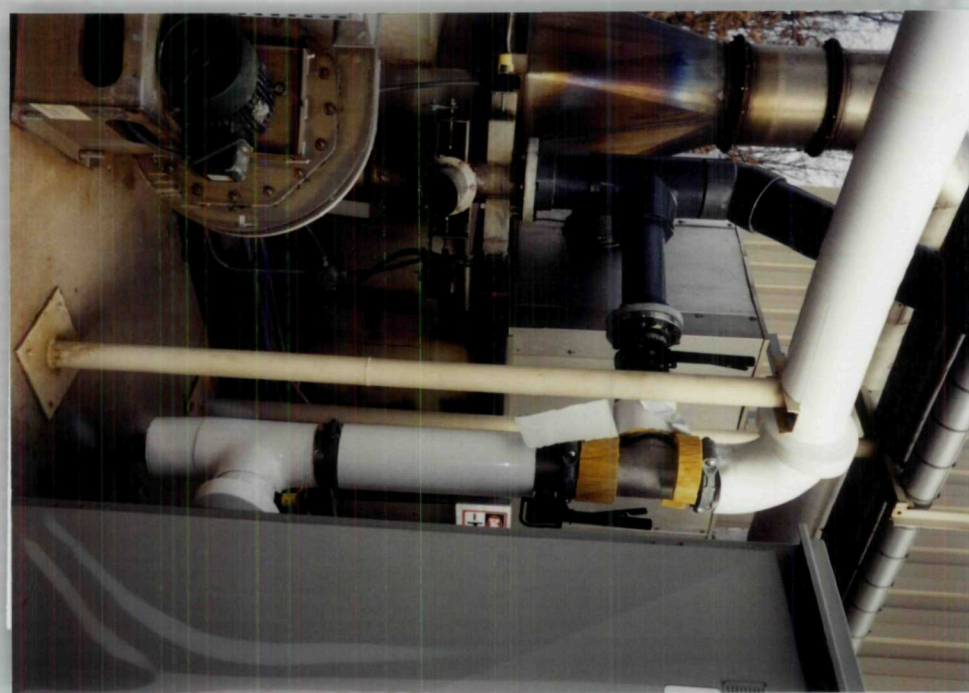
Photographer: Leigh Peters

Description: Photo facing west at the ground showing the double walled collection piping installed for the sump.



065

Site: American Chemical Services, Inc.
 Proj. #: 46526
 Roll: 38 Photo #6
 Date: 03-18-03 Time: 09:00
 Photographer: Leigh Peters
 Description: Photo facing east showing Ryan Construction constructing the exterior sump area.



Site: American Chemical Services, Inc.
 Proj. #: 46526
 Roll: 38 Photo #7
 Date: 03-18-03 Time: 09:05
 Photographer: Leigh Peters
 Description: Photo facing west showing the bypass piping installed between the catalytic oxidizer and the OFCA ISVE system thermal oxidizer.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #8

Date: 03-18-03 Time: 10:40

Photographer: Leigh Peters

Description: Photo facing south showing IES wrapping the ONCA SBPA ISVE system yard piping in geotextile fabric.

Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #9

Date: 03-18-03 Time: 12:25

Photographer: Leigh Peters

Description: Photo facing east showing Ryan Construction pouring the concrete for the sump at the GWTP.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #10

Date: 03-20-03 Time: 08:35

Photographer: Leigh Peters

Description: Photo facing south showing IES wrapping geotextile fabric on the ONCA SBPA ISVE yard piping adjacent to the road area.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #11

Date: 03-25-03 Time: 07:40

Photographer: Leigh Peters

Description: Photo facing east showing MWH collecting a groundwater sample for volatile organic compound analyses at MW12.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #12

Date: 03-25-03 Time: 08:20

Photographer: Leigh Peters

Description: Photo facing east showing the concrete poured over the central ONCA SBPA ISVE system yard piping trench located in the road area.

Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #13

Date: 03-25-03 Time: 08:25

Photographer: Leigh Peters

Description: Photo facing northwest at the ground showing IES placing bentonite around the saddle for the ONCA SBPA ISVE system yard piping at SVE-54.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #14

Date: 03-25-03 Time: 08:30

Photographer: Leigh Peters

Description: Photo facing east showing the concrete and welded wire reinforcing placed over the yard piping and the geotextile fabric where gravel is to be used for backfill.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #15

Date: 03-25-03 Time: 09:30

Photographer: Leigh Peters

Description: Photo facing east showing MWH collecting a groundwater sample for semi-volatile organic analysis.



Site: American Chemical Services, Inc.
 Proj. #: 46526
 Roll: 38 Photo #16
 Date: 03-25-03 Time: 09:55
 Photographer: Leigh Peters
 Description: Photo facing southeast showing MWH
 installing the pump into MW30.



Site: American Chemical Services, Inc.
 Proj. #: 46526
 Roll: 38 Photo #17
 Date: 03-25-03 Time: 11:42
 Photographer: Leigh Peters
 Description: Photo facing northeast showing MWH
 collecting a groundwater sample for volatile
 organic compound analysis at MW33.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #18

Date: 03-25-03 Time: 12:30

Photographer: Leigh Peters

Description: Photo facing northwest showing MWH measuring field parameters and the flow rate at MW52.



Site: American Chemical Services, Inc.

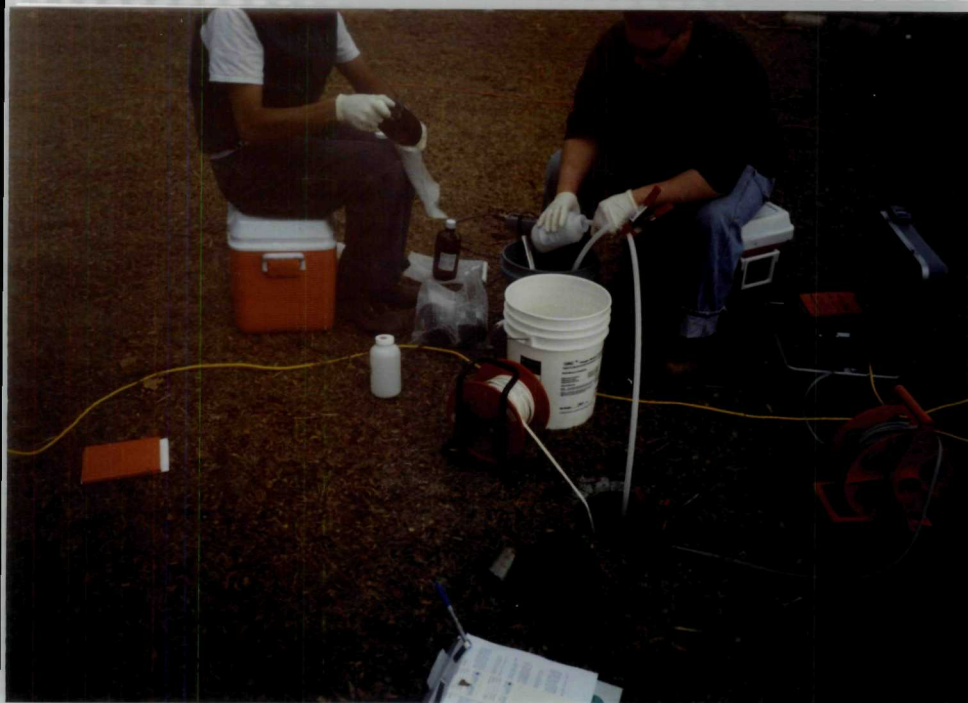
Proj. #: 46526

Roll: 38 Photo #19

Date: 03-25-03 Time: 12:55

Photographer: Leigh Peters

Description: Photo facing north showing MWH collecting groundwater samples for volatile organic compound analysis at MW52.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #20

Date: 03-25-03 Time: 14:20

Photographer: Leigh Peters

Description: Photo facing southeast showing MWH collecting a groundwater sample for metals analysis at MW17.

Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #21

Date: 03-27-03 Time: 08:10

Photographer: Leigh Peters

Description: Photo facing east showing MWH connecting the Grundfos pump to the dedicated tubing at MW45.



Site: American Chemical Services, Inc.
 Proj. #: 46526
 Roll: 38 Photo #22
 Date: 03-27-03 Time: 08:55
 Photographer: Leigh Peters
 Description: Photo facing southeast showing MWH collecting a groundwater sample for metals analysis under low flow conditions.



Site: American Chemical Services, Inc.
 Proj. #: 46526
 Roll: 38 Photo #23
 Date: 03-27-03 Time: 09:20
 Photographer: Leigh Peters
 Description: Photo facing west at the ground showing the flow through cell and purge water at MW44. Note orange color or purge water - MWH suspected iron containing water.



Site: American Chemical Services, Inc.

Proj. #: 46526

Roll: 38 Photo #24

Date: 03-27-03 Time: 13:00

Photographer: Leigh Peters

Description: Photo facing south showing IES wrapping geotextile fabric around the ONCA SBPA ISVE system yard piping located near the blower shed concrete slab.

Site: American Chemical Services, Inc.

Proj. # 46526

Roll: 38 Photo #25

Date: 03-27-03 Time: 14:35

Photographer: Leigh Peters

Description: Photo facing northwest showing MWH collecting a groundwater sample for volatile organic compound analysis and labeling sample containers at MW29.



Site: American Chemical Services, Inc.

Proj. # 46526

Roll: 38 Photo #26

Date: 03-27-03 Time: 15:10

Photographer: Leigh Peters

Description: Photo facing north showing MWH
decontaminating the pump at MW29.